Fig. 1

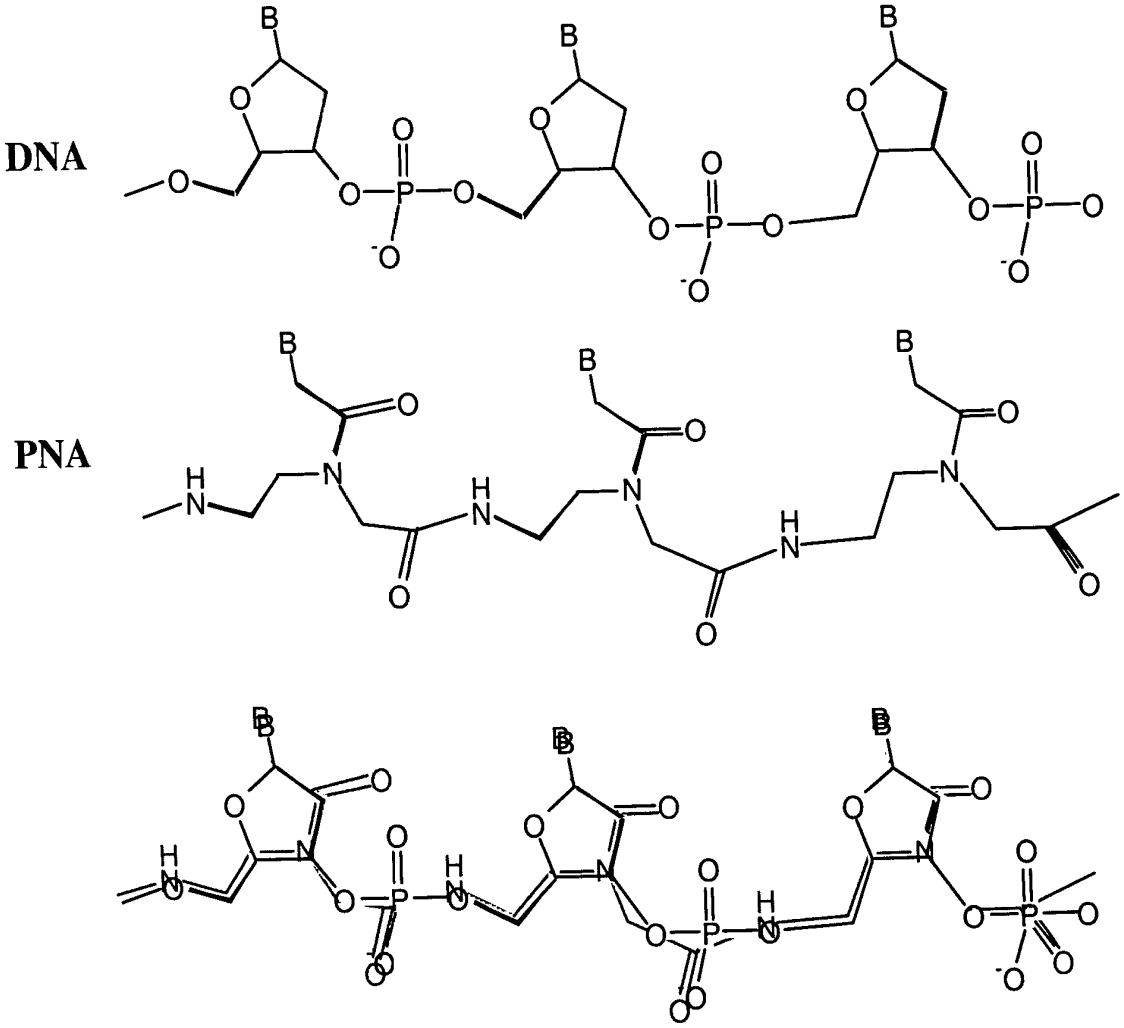


Fig. 2A

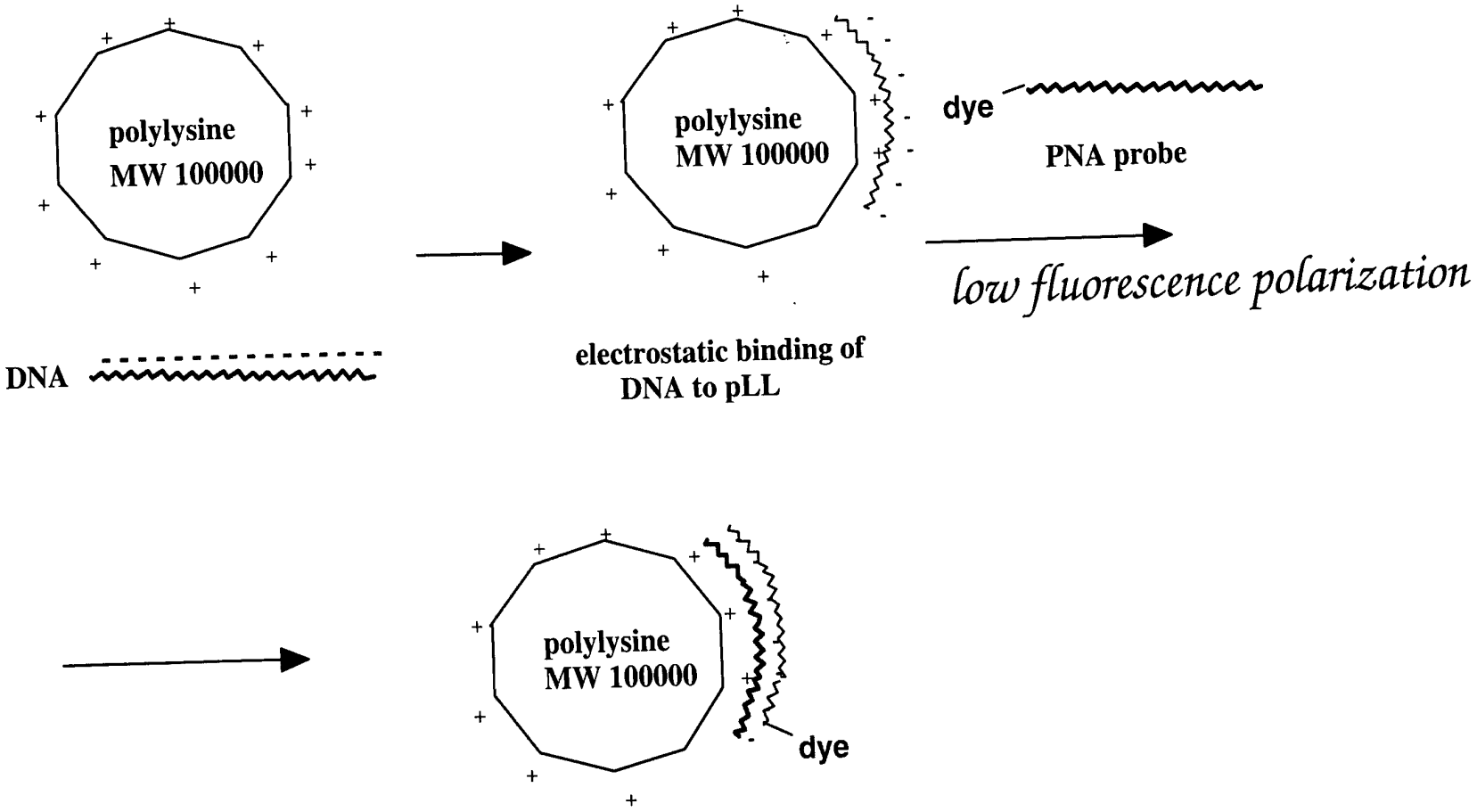


Fig. 2 B

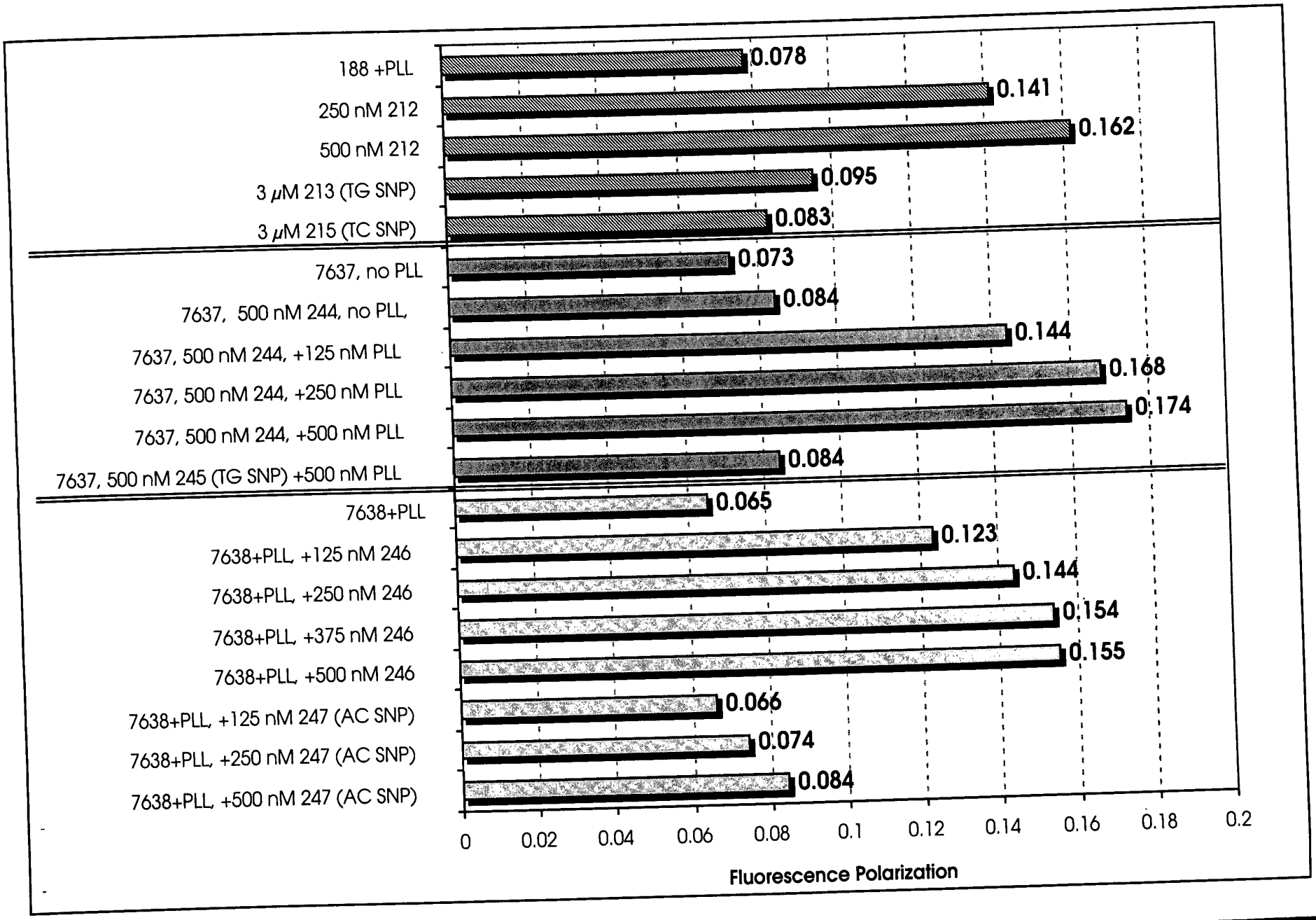

188 +PLL
250 nM 212
500 nM 212
3 μM 213 (TG SNP)
3 μM 215 (TC SNP)
7637, no PLL
7637, 500 nM 244, no PLL,
7637, 500 nM 244, +125 nM PLL
7637, 500 nM 244, +250 nM PLL
7637, 500 nM 244, +500 nM PLL
7637, 500 nM 245 (TG SNP) +500 nM PLL
7638+PLL
7638+PLL, +125 nM 246
7638+PLL, +250 nM 246
7638+PLL, +375 nM 246
7638+PLL, +500 nM 246
7638+PLL, +125 nM 247 (AC SNP)
7638+PLL, +250 nM 247 (AC SNP)
7638+PLL, +500 nM 247 (AC SNP)
0.078
0.141
0.162
0.095
0.083
0.073
0.084
0.144
0.168
0.174
0.084
0.065
0.123
0.144
0.154
0.155
0.066
0.074
0.084
0
0.02
0.04
0.06
0.08
0.1
0.12
0.14
0.16
0.18
0.2
Fluorescence Polarization

Fig. 2C

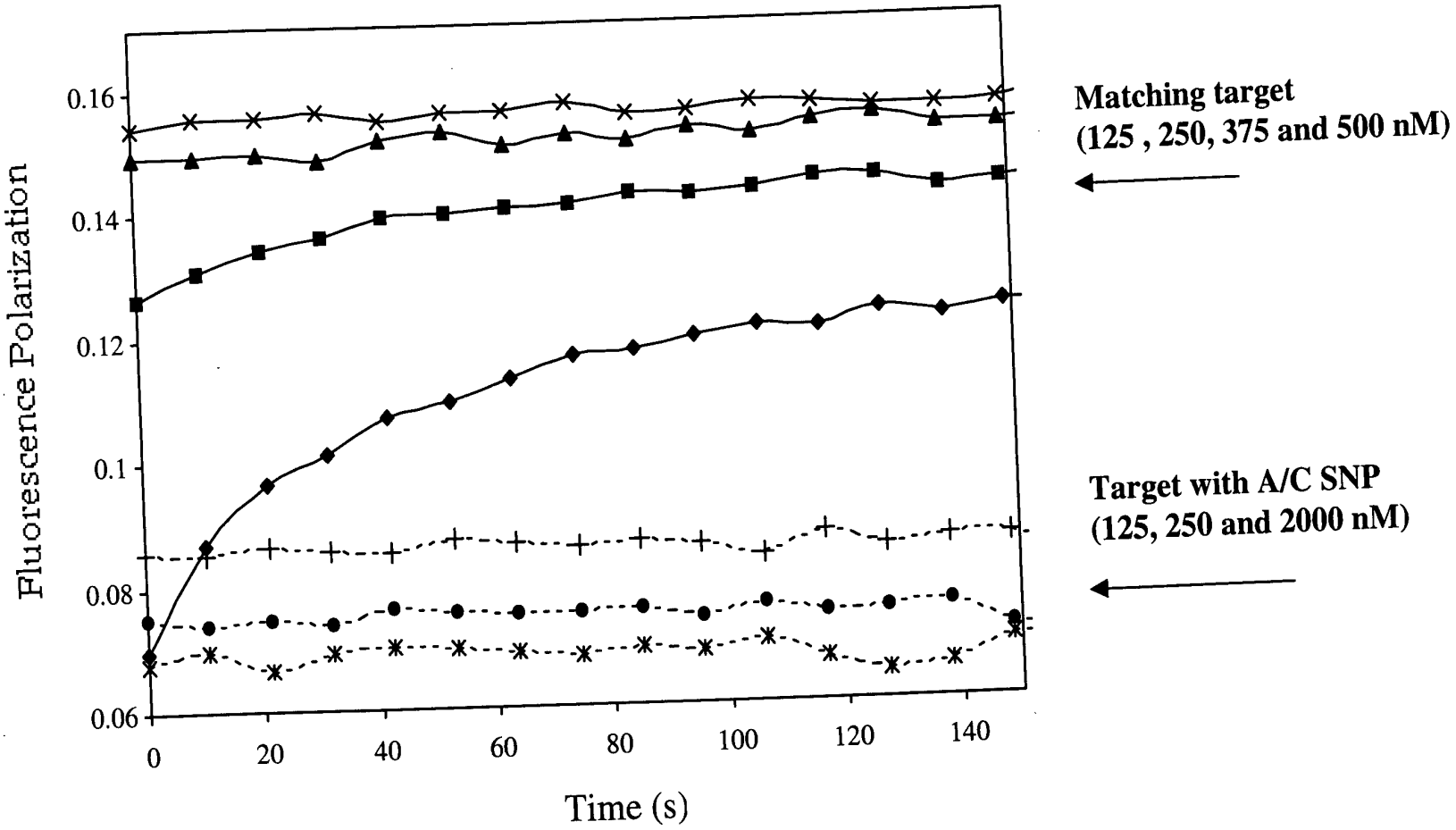
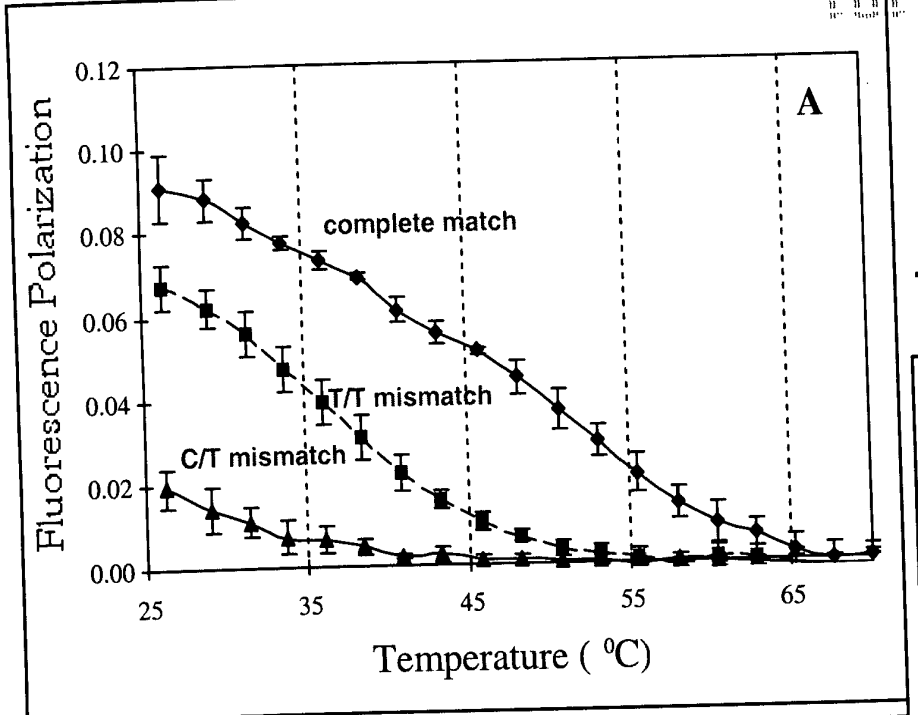
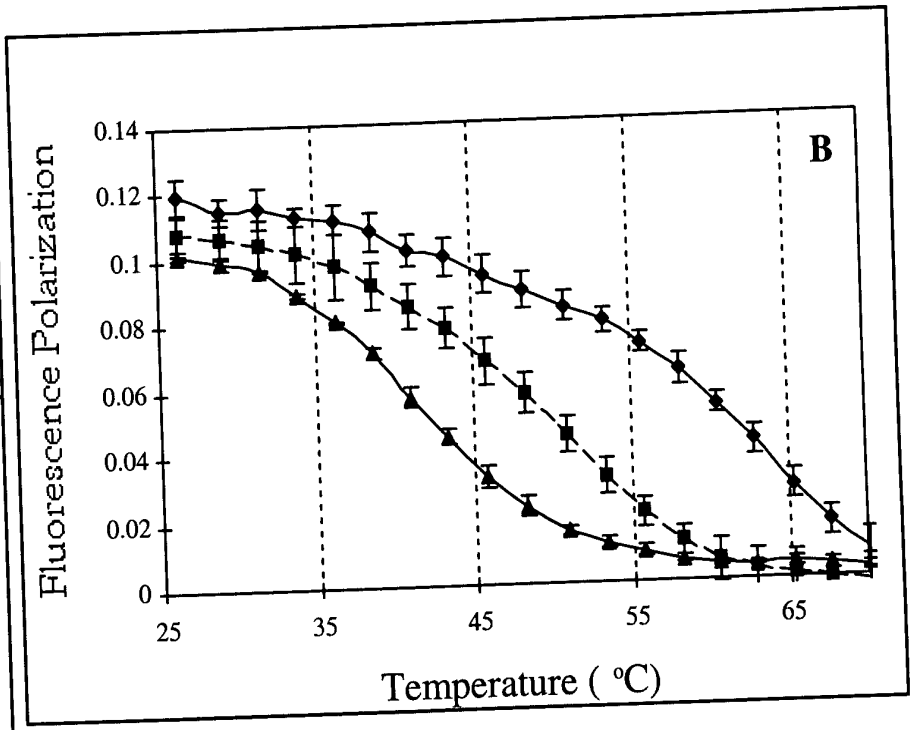
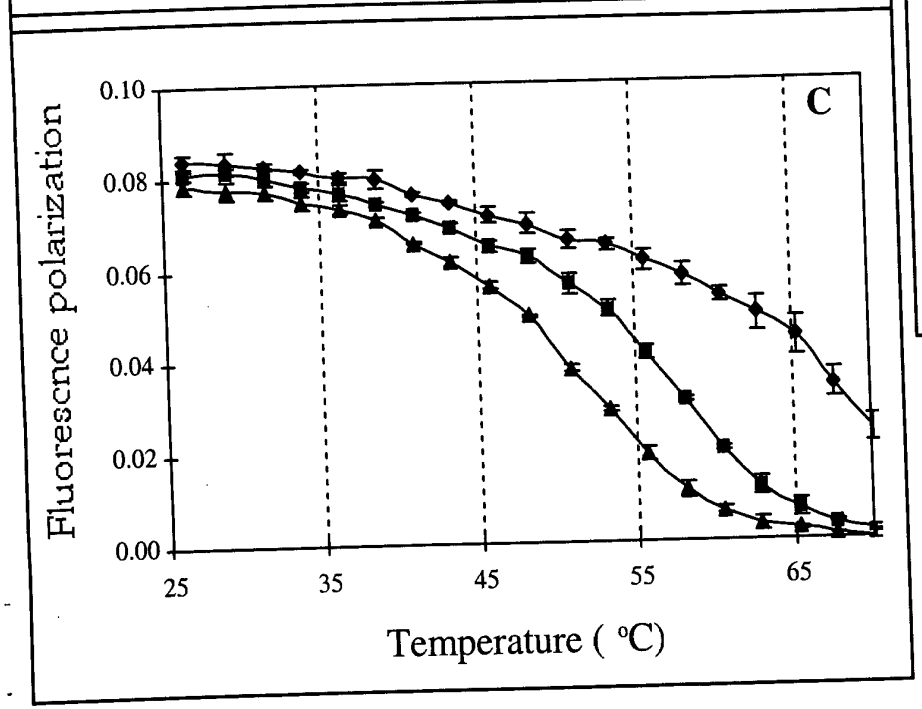

Fluorescence Polarization
0.16
0.14
0.12
0.1
0.08
0.06
0
20
40
60
80
100
120
140
Time (s)
Matching target
(125 , 250, 375 and 500 nM)
Target with A/C SNP
(125, 250 and 2000 nM)

Fig. 2D







A. PNA probe 188 (9mer)
B. PNA probe 201 (11mer)
C. PNA probe 202 (13mer)

Fig. 2E

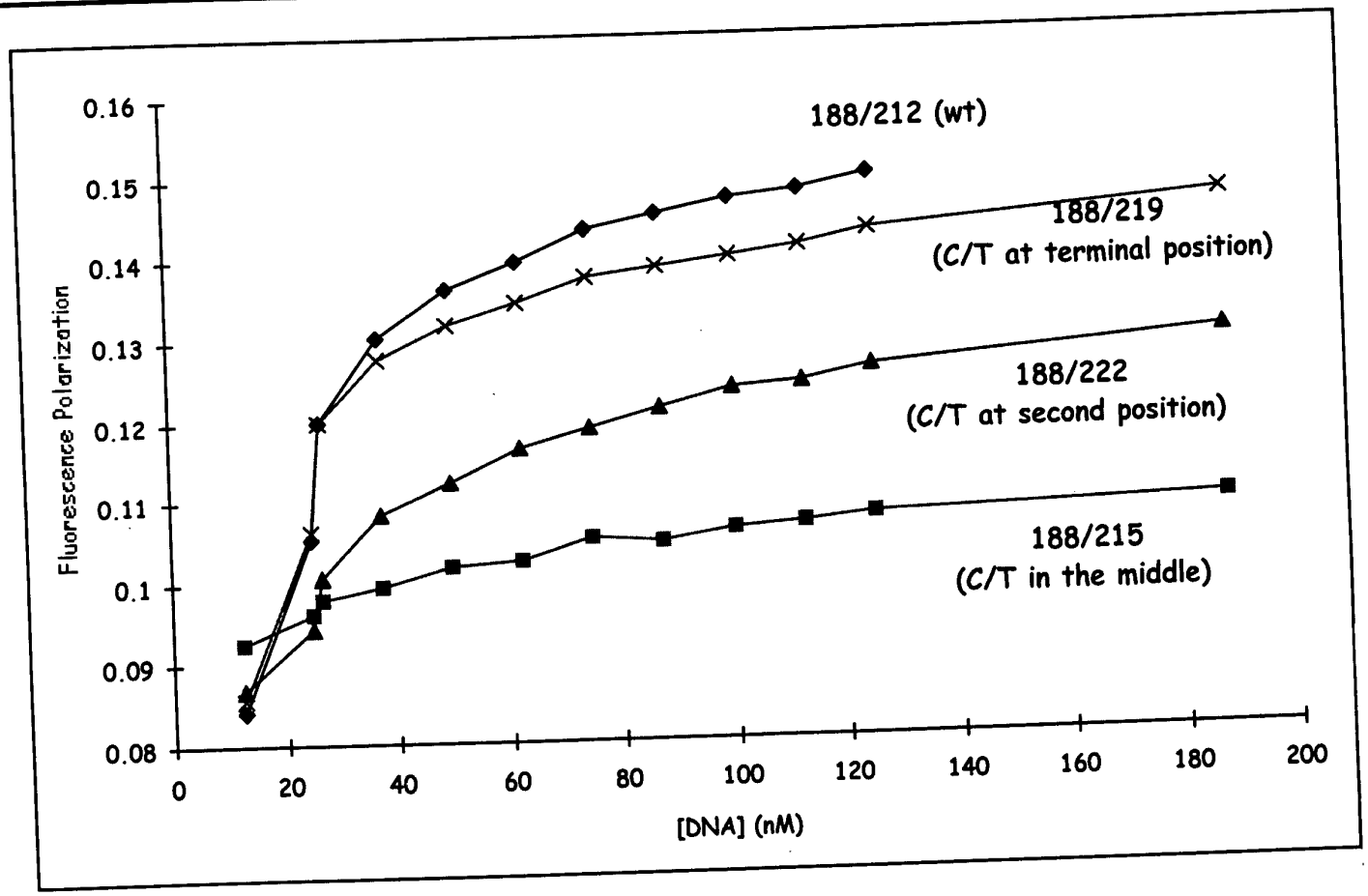

188/212 (wt)
188/219
(C/T at terminal position)
188/222
(C/T at second position)
188/215
(C/T in the middle)
Fluorescence Polarization
0.16
0.15
0.14
0.13
0.12
0.11
0.1
0.09
0.08
0
20
40
60
80
100
120
140
160
180
200
[DNA] (nM)

Fig. 3A

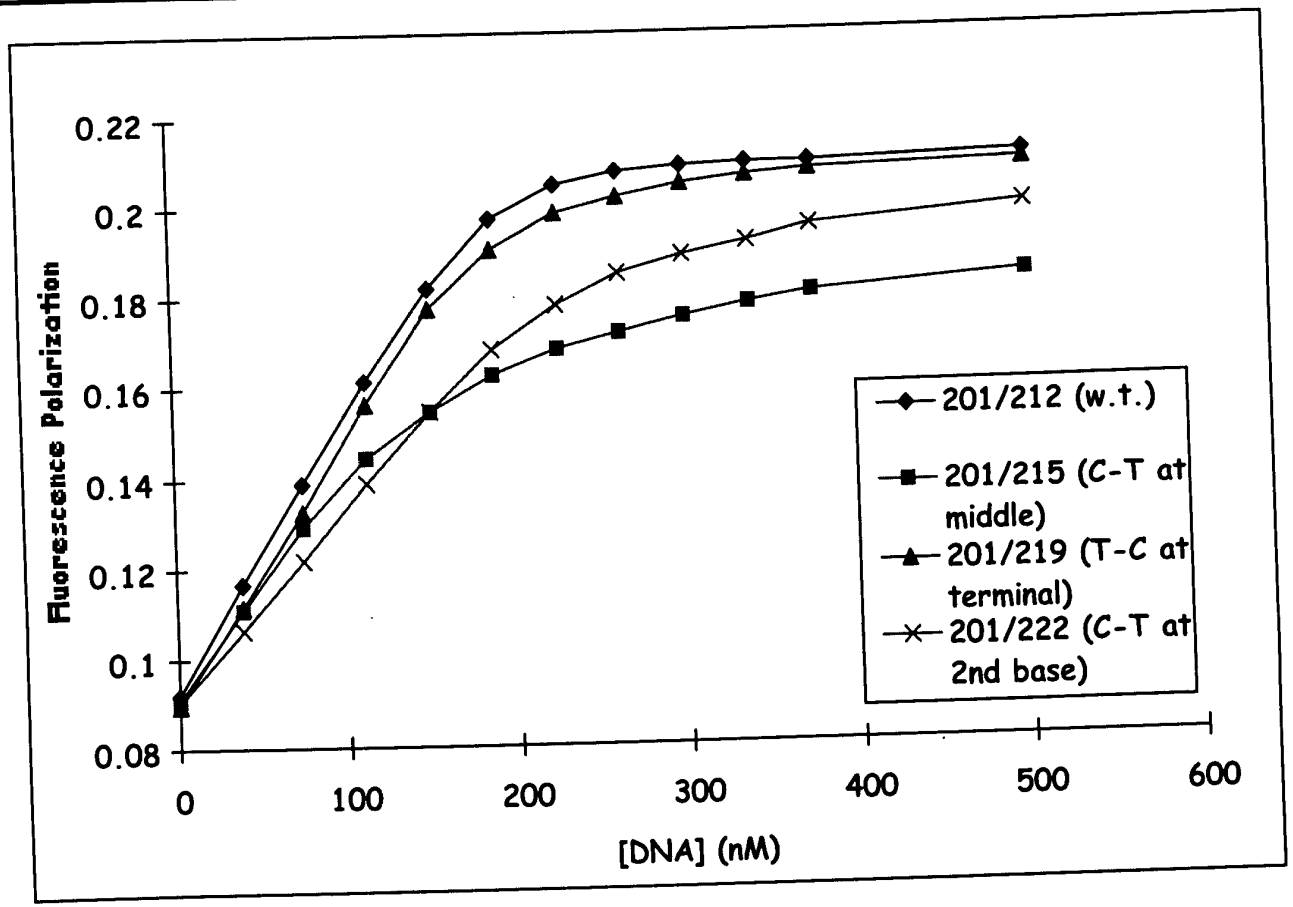

0.22
0.2
0.18
0.16
0.14
0.12
0.1
0.08
Fluorescence Polarization
0
100
200
300
400
500
600
[DNA] (nM)
201/212 (w.t.)
201/215 (C-T at middle)
201/219 (T-C at terminal)
201/222 (C-T at 2nd base)

Fig. 3B

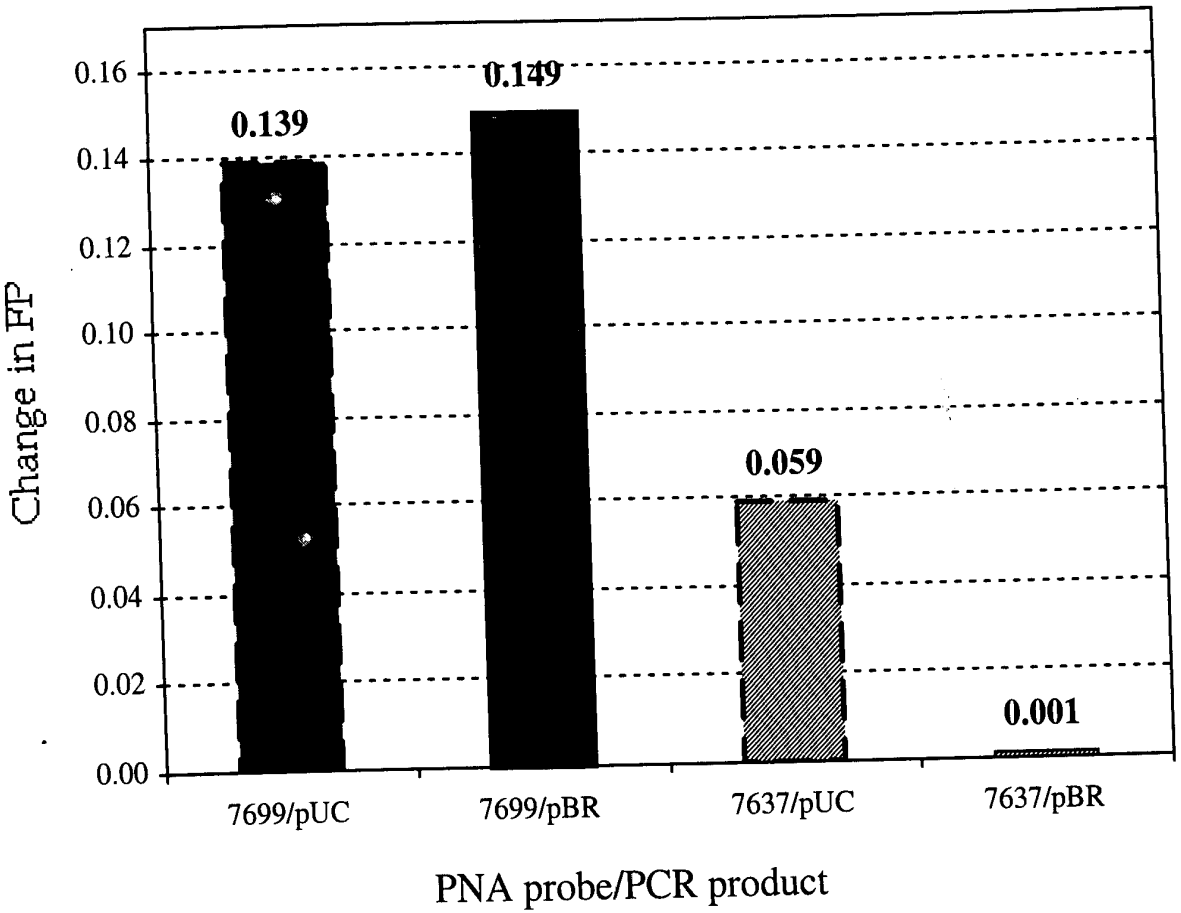

0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
Change in FP
0.139
0.149
0.059
0.001
7699/pUC
7699/pBR
7637/pUC
7637/pBR
PNA probe/PCR product

Fig. 3C

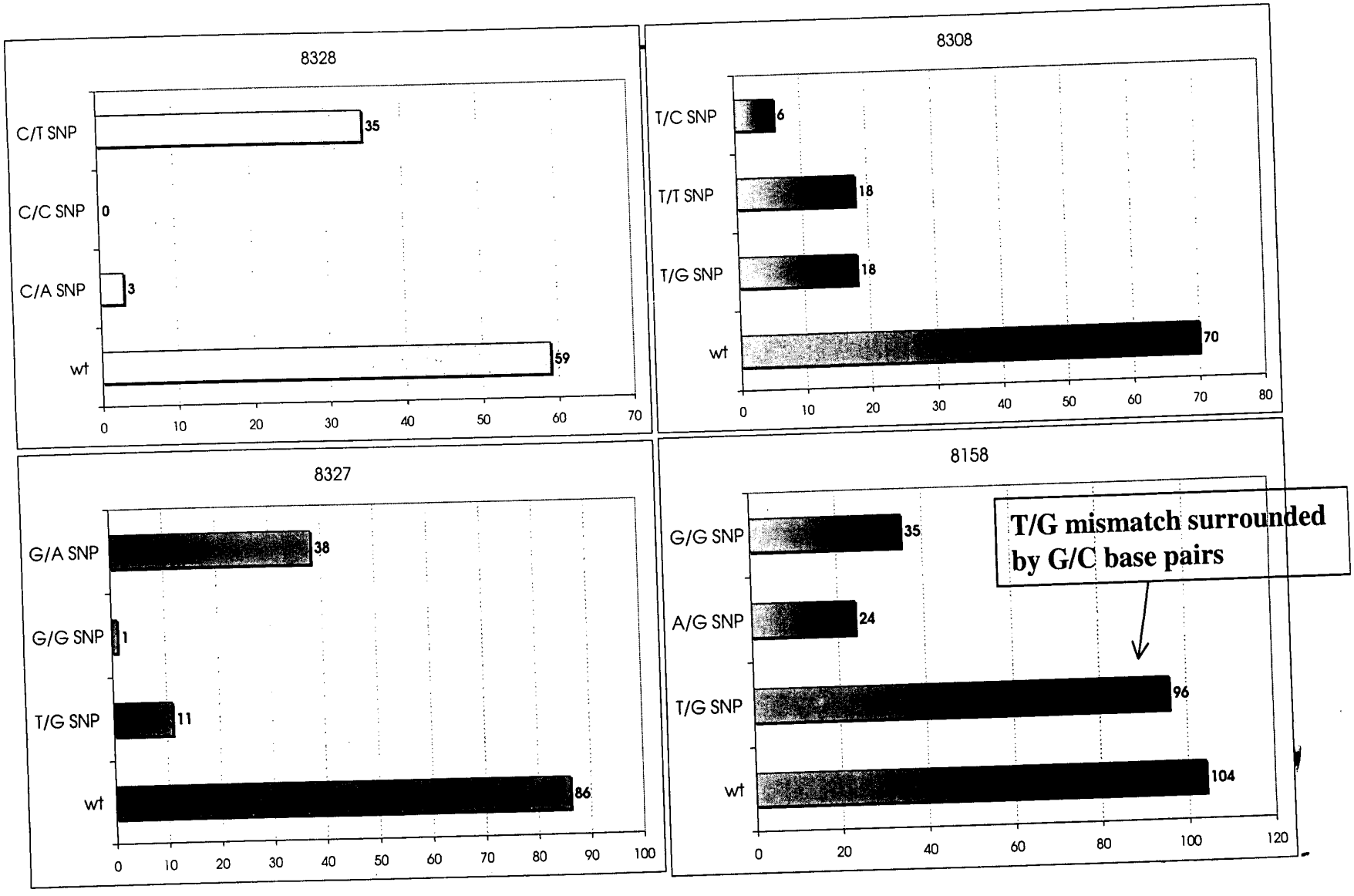

8328
C/T SNP
C/C SNP
C/A SNP
wt
35
0
3
59
0 10 20 30 40 50 60 70
8308
T/C SNP
T/T SNP
T/G SNP
wt
6
18
18
70
0 10 20 30 40 50 60 70 80
8327
G/A SNP
G/G SNP
T/G SNP
wt
38
1
11
86
0 10 20 30 40 50 60 70 80 90 100
8158
G/G SNP
A/G SNP
T/G SNP
wt
35
24
96
104
0 20 40 60 80 100 120
T/G mismatch surrounded by G/C base pairs

Fig. 3D

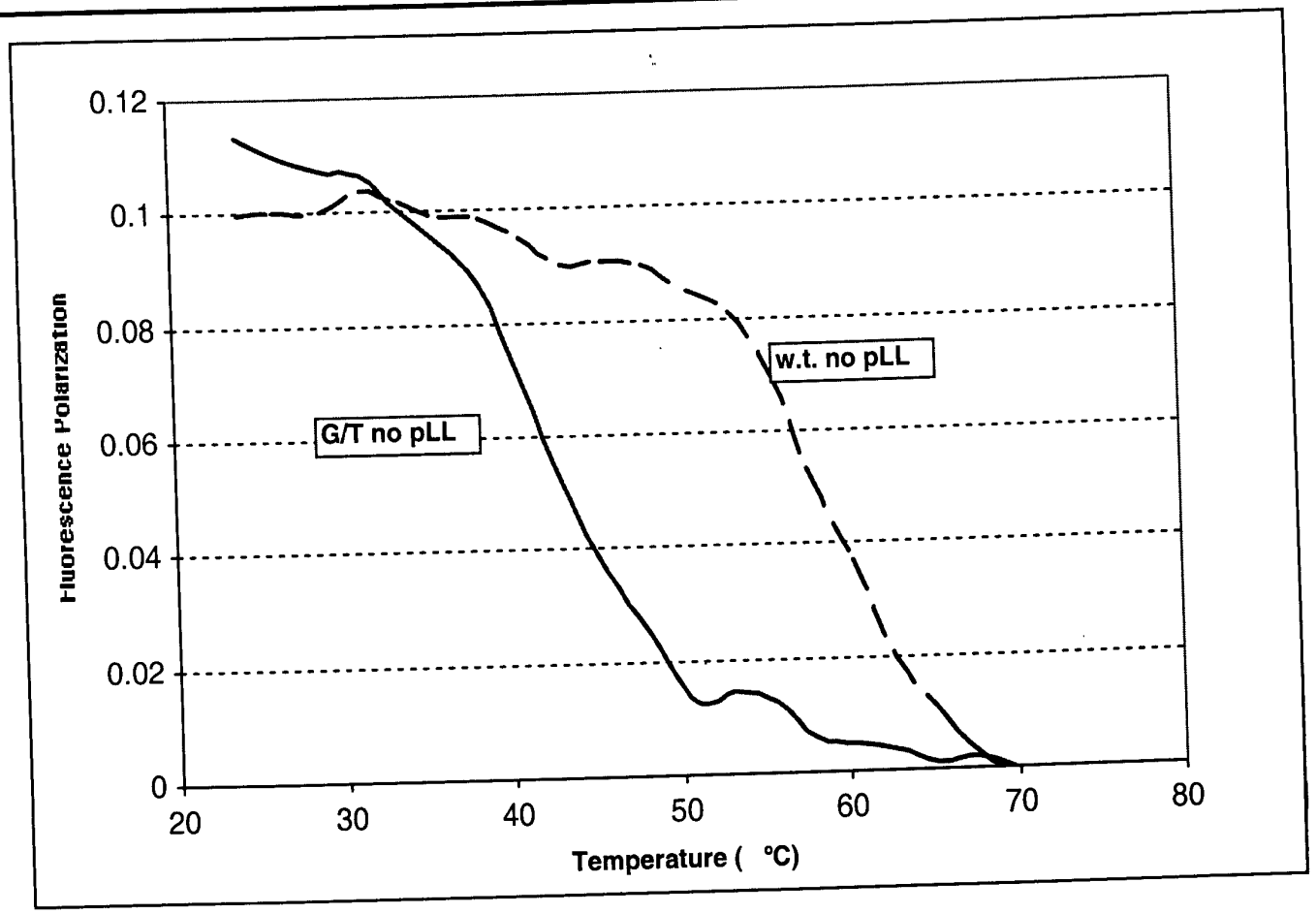

0.12
0.1
0.08
0.06
0.04
0.02
0
20
30
40
50
60
70
80
Fluorescence Polarization
Temperature (°C)
w.t. no pLL
G/T no pLL

Fig. 4A

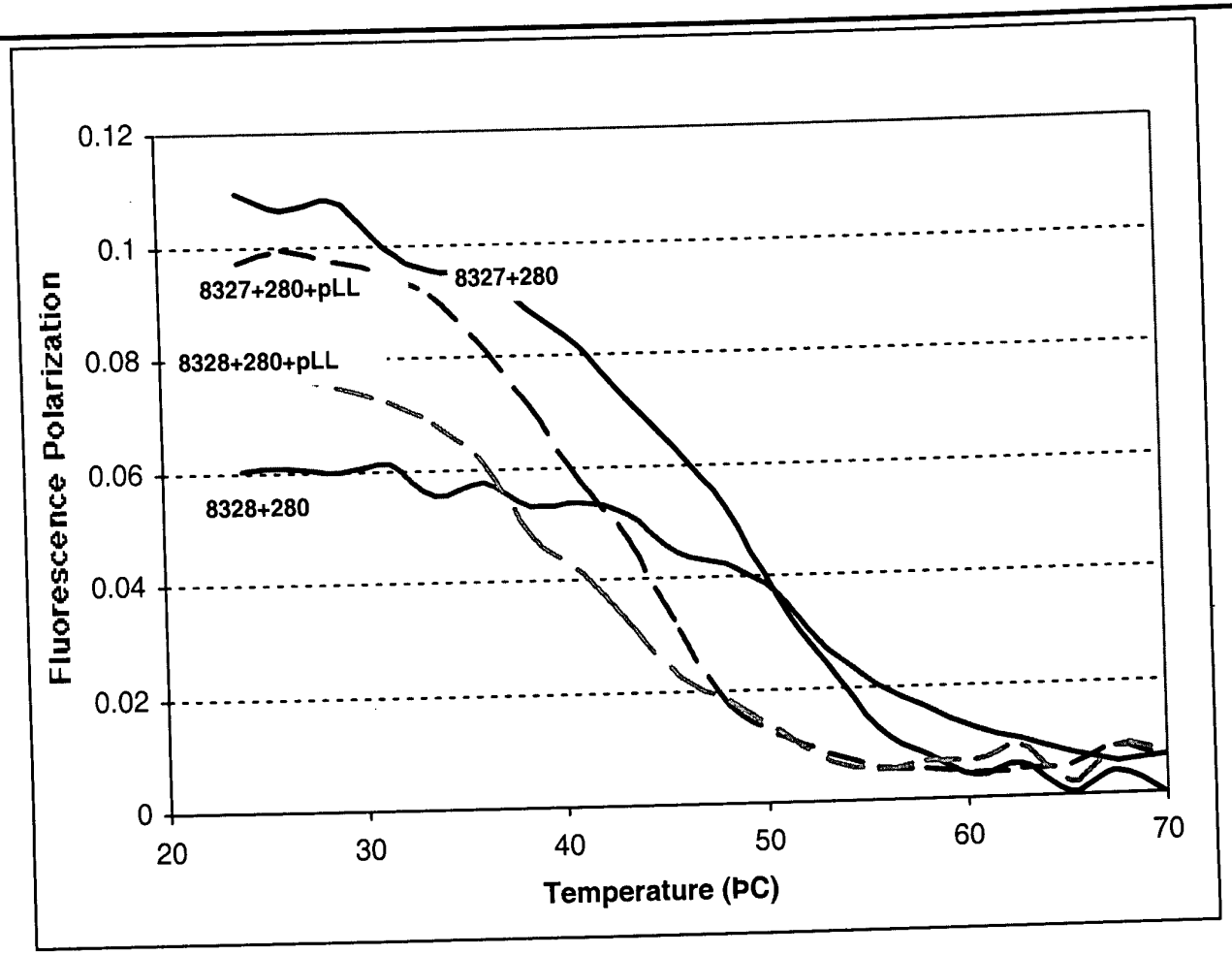

0.12
0.1
0.08
0.06
0.04
0.02
0
Fluorescence Polarization
8327+280+pLL
8327+280
8328+280+pLL
8328+280
20
30
40
50
60
70
Temperature (ÞC)

Fig. 4B

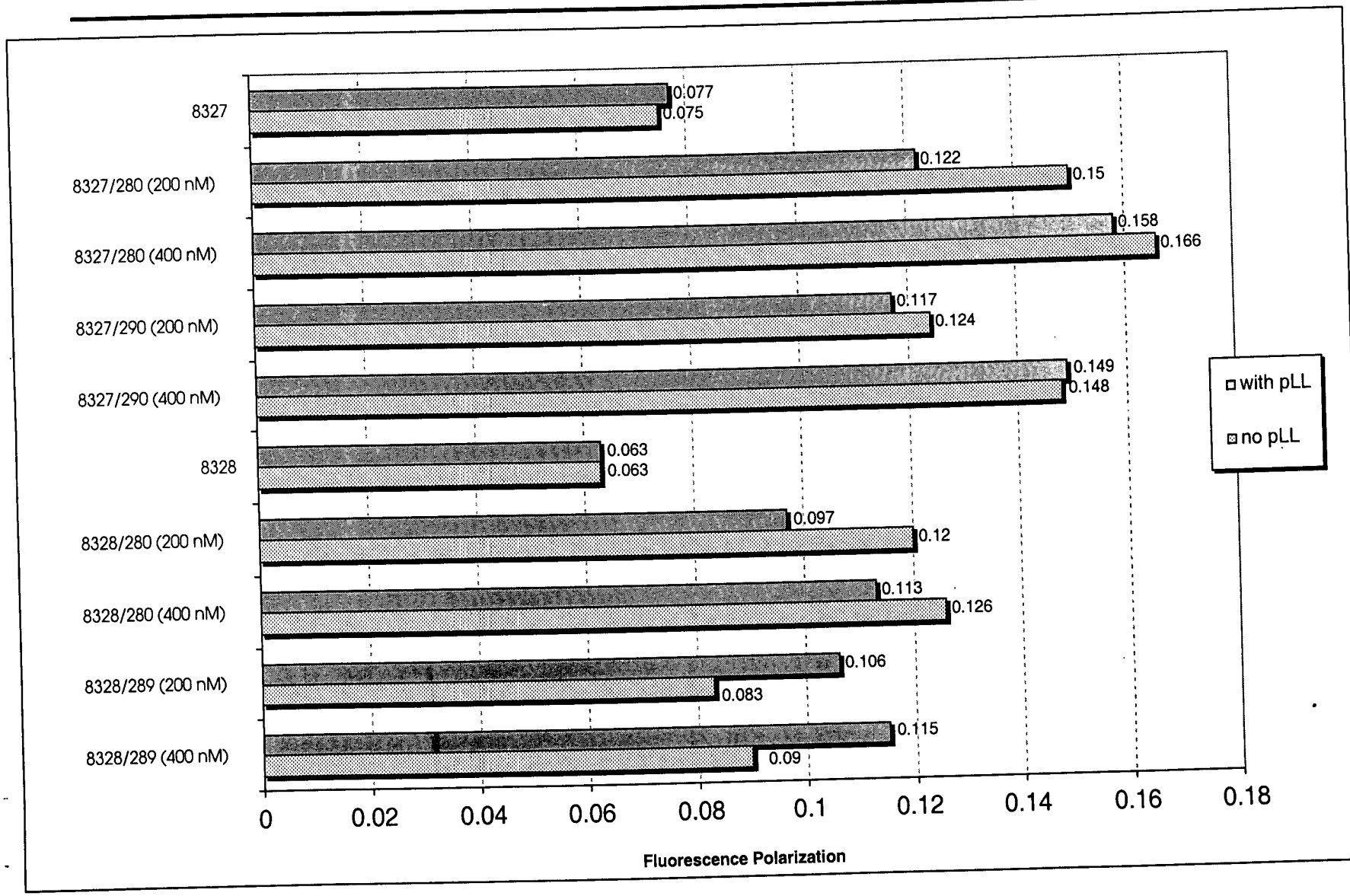
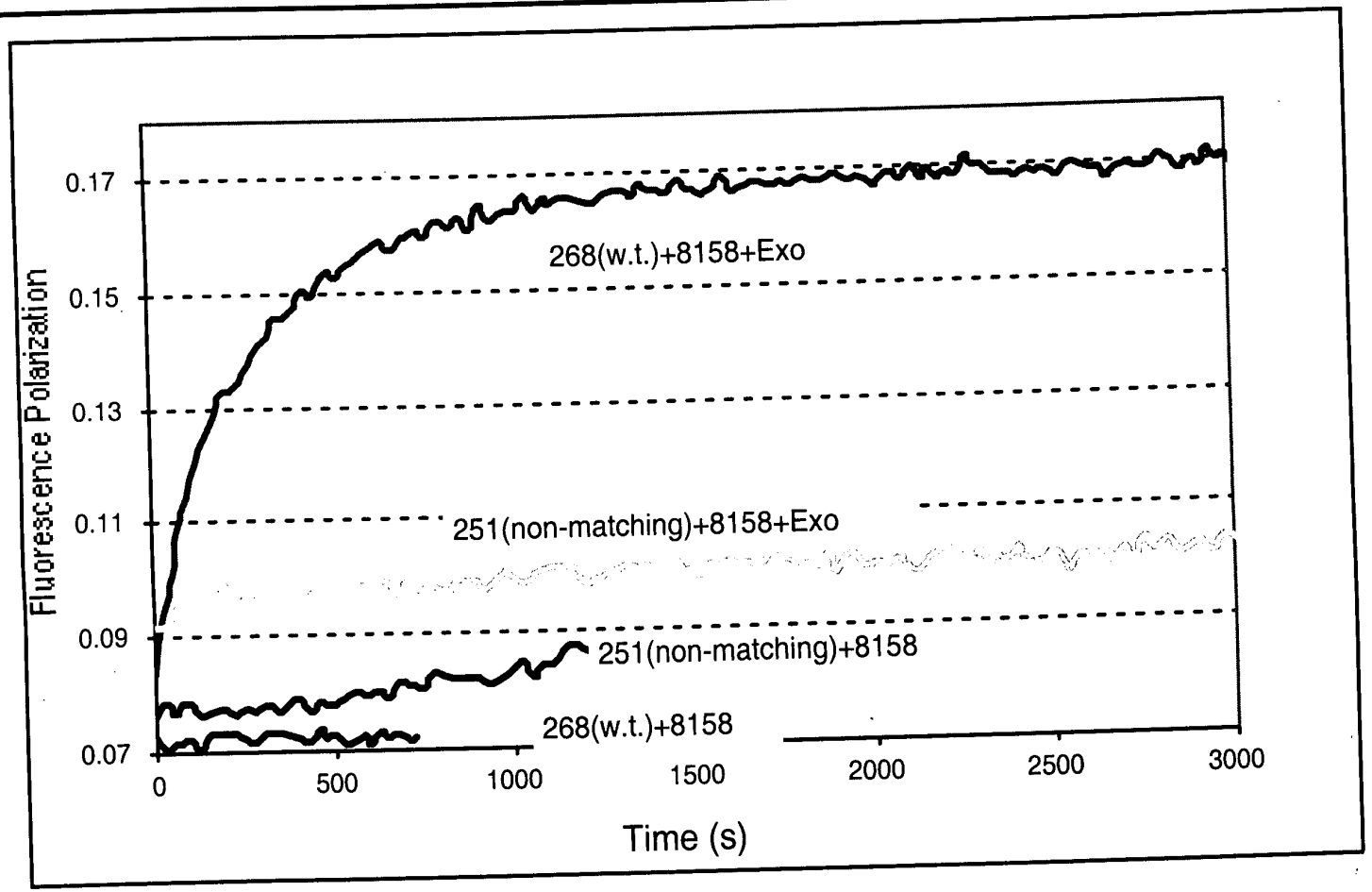

8327
0.077
0.075
8327/280 (200 nM)
0.122
0.15
8327/280 (400 nM)
0.158
0.166
8327/290 (200 nM)
0.117
0.124
8327/290 (400 nM)
0.149
0.148
8328
0.063
0.063
8328/280 (200 nM)
0.097
0.12
8328/280 (400 nM)
0.113
0.126
8328/289 (200 nM)
0.106
0.083
8328/289 (400 nM)
0.115
0.09
with pLL
no pLL
0
0.02
0.04
0.06
0.08
0.1
0.12
0.14
0.16
0.18
Fluorescence Polarization

Fig. 4C


Fluorescence Polarization
0.17
0.15
0.13
0.11
0.09
0.07
268(w.t.)+8158+Exo
251(non-matching)+8158+Exo
251(non-matching)+8158
268(w.t.)+8158
0
500
1000
1500
2000
2500
3000
Time (s)

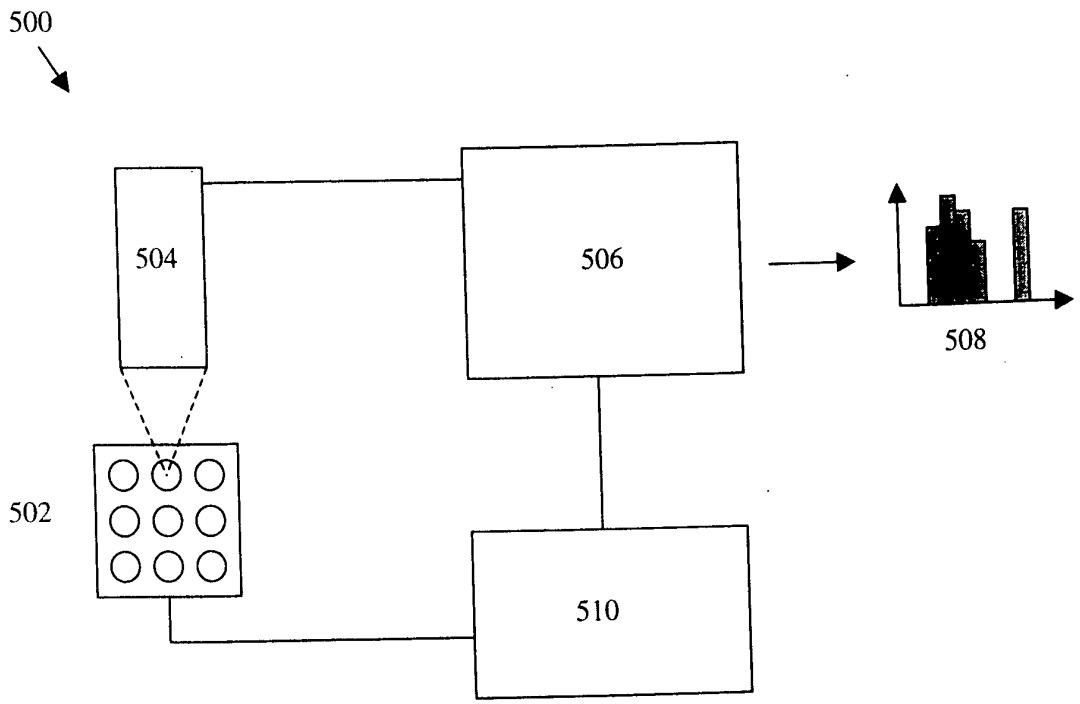


Figure 5

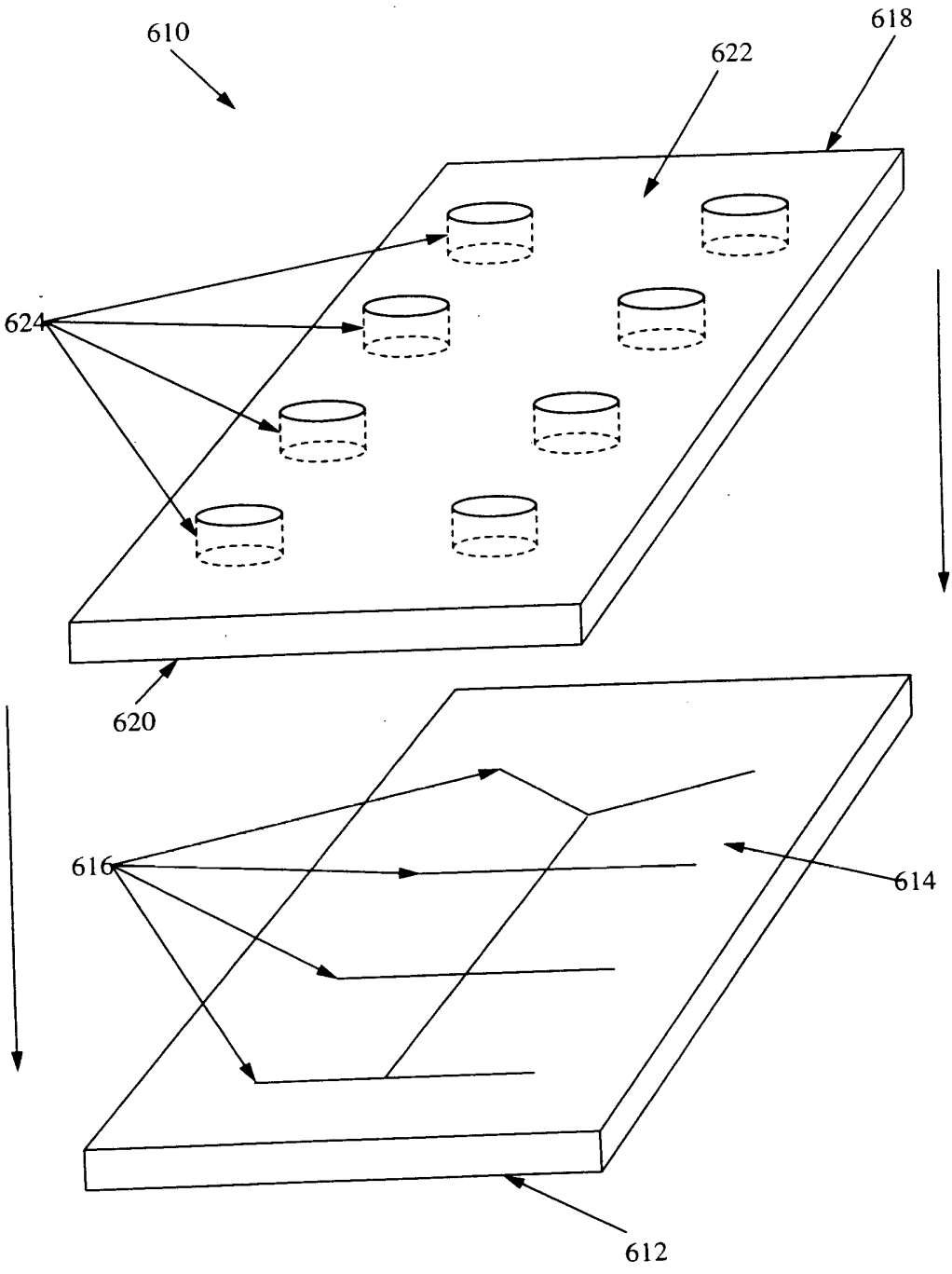


Figure 6

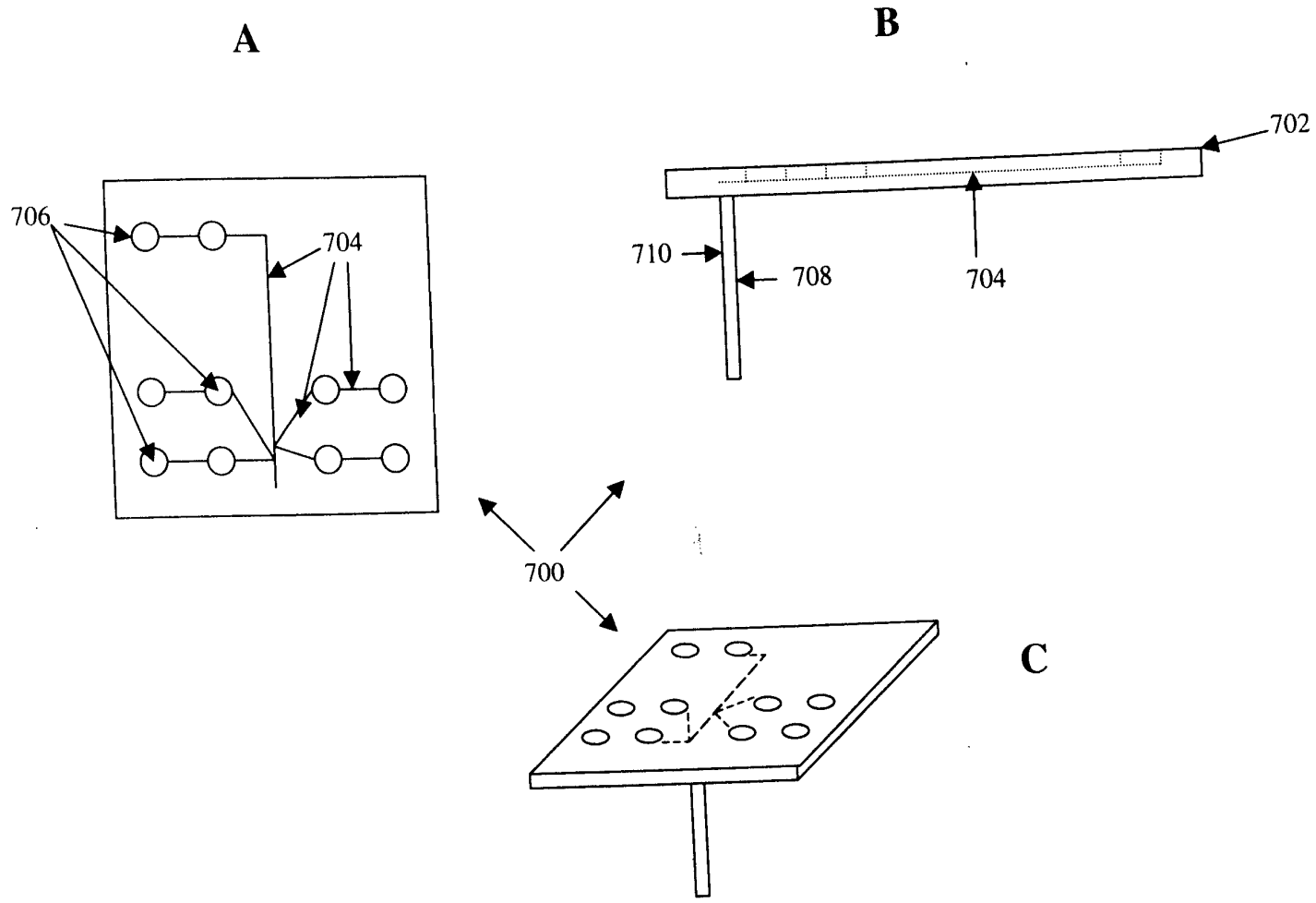


Figure 7

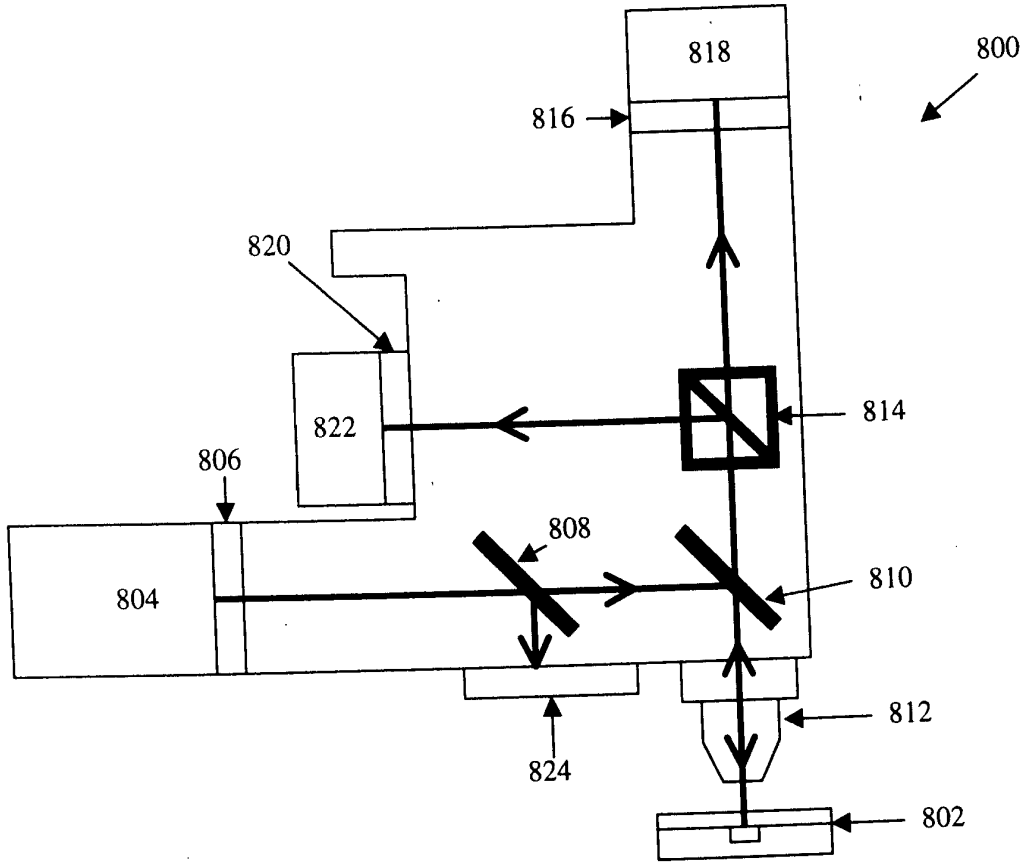


Figure 8

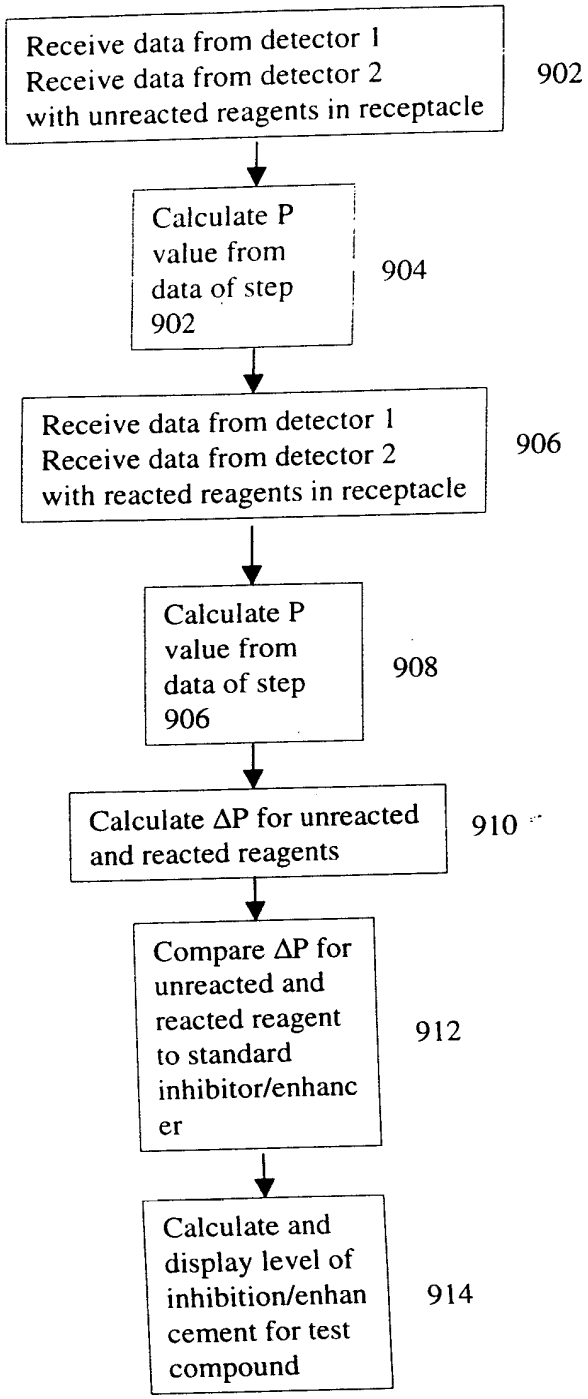

Receive data from detector 1
Receive data from detector 2
with unreacted reagents in receptacle
902
Calculate P value from data of step 902
904
Receive data from detector 1
Receive data from detector 2
with reacted reagents in receptacle
906
Calculate P value from data of step 906
908
Calculate ΔP for unreacted and reacted reagents
910
Compare ΔP for unreacted and reacted reagent to standard inhibitor/enhancer
912
Calculate and display level of inhibition/enhancement for test compound
914

Figure 9

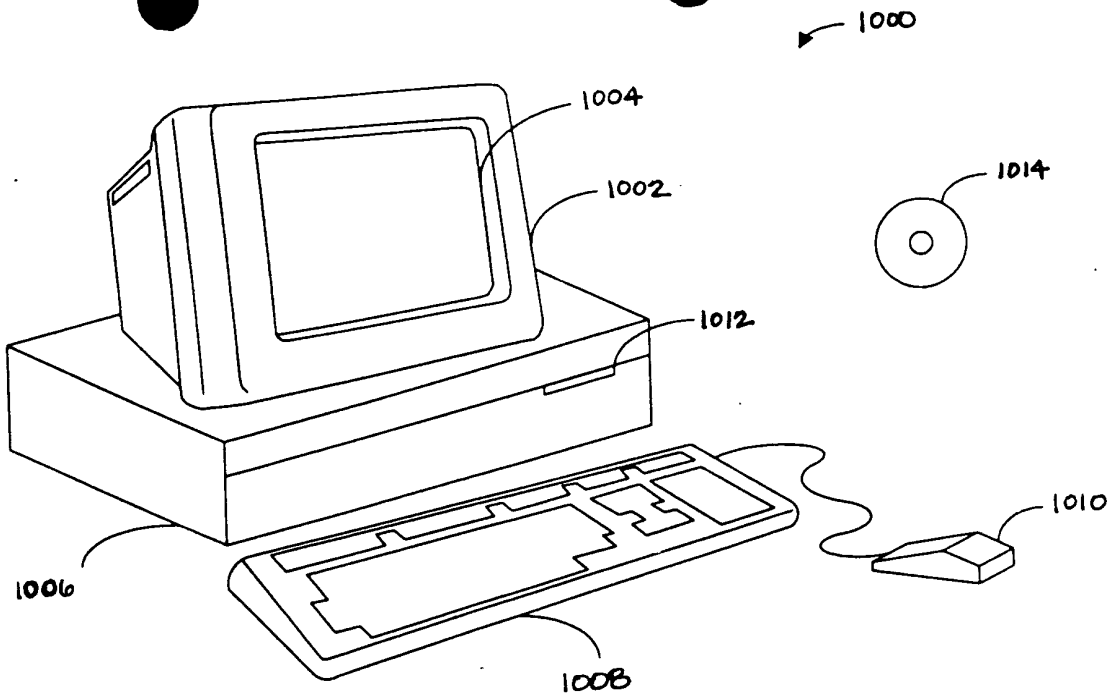


FIG. 10A

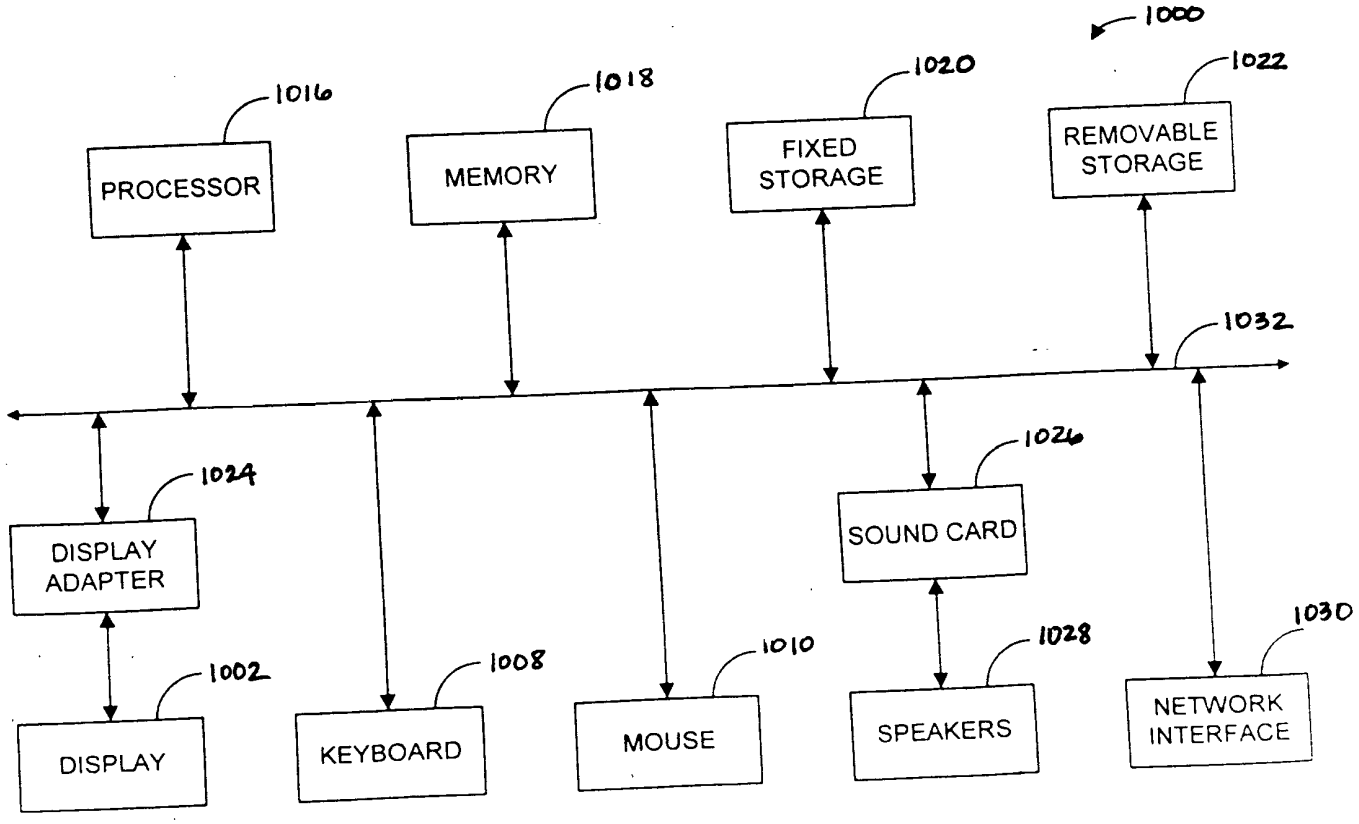


FIG. 10B

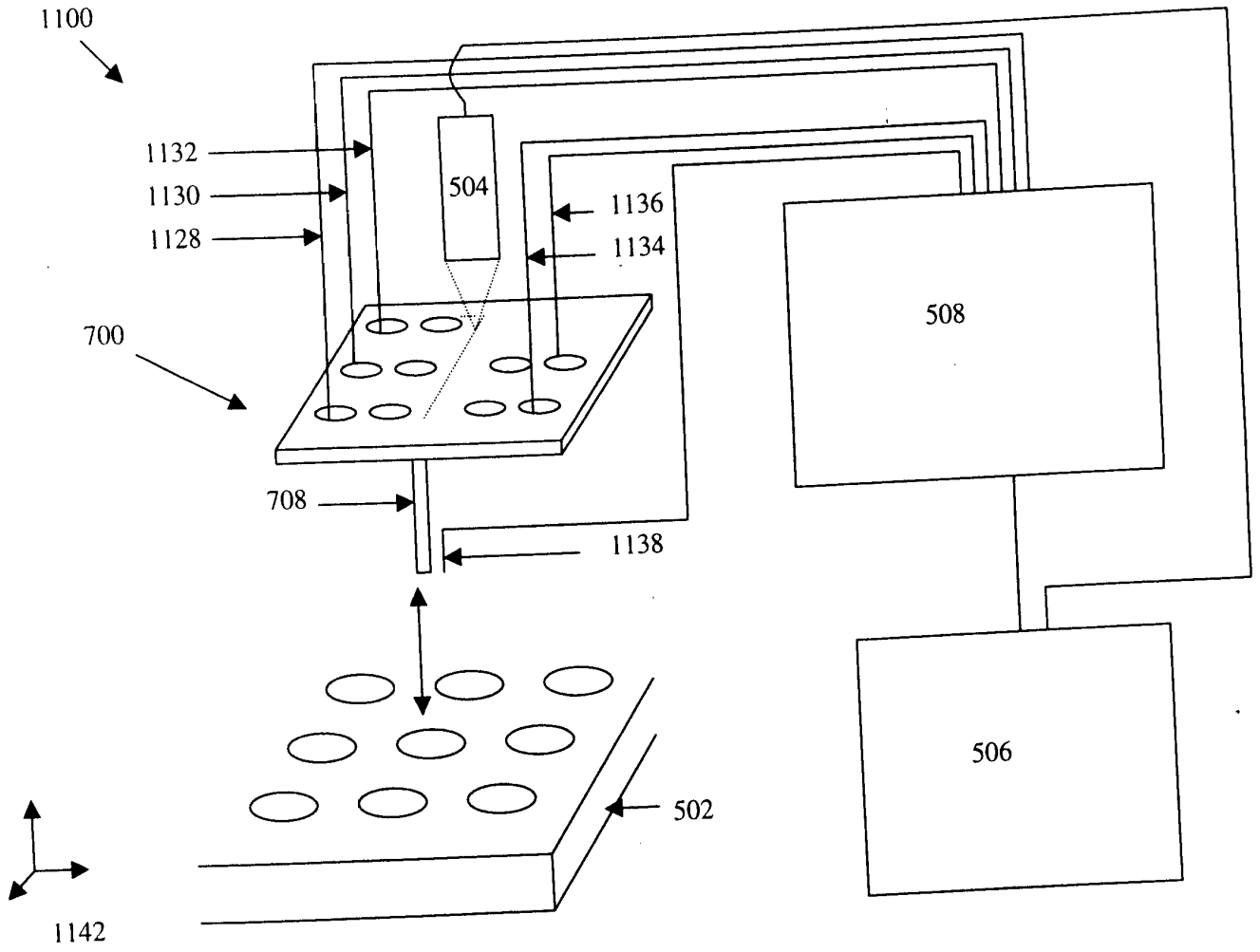
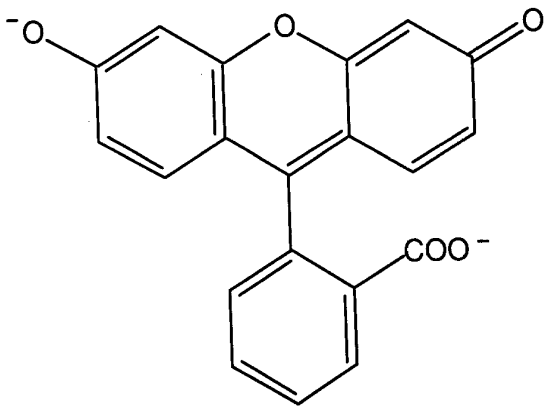
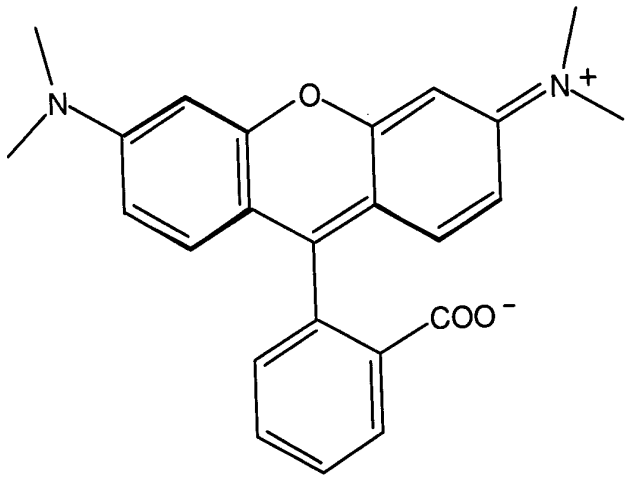

1100
1132
1130
1128
504
1136
1134
508
700
708
1138
506
502
1142

Figure 11

Fig. 12



Fluorescein



Rhodamine